

CLAIMS

What is claimed is:

1. A composition used to prevent or treat mitochondrial-based pathological states, comprising a heterocyclic, tricyclic or phenothiazine compound, wherein said compound has at least a two member central ring.
2. The composition of claim 1 selected from the group consisting of methiothepin, promethazine, triflupromazine, clomipramine, flufenazine, chlorprothixene, nortriptyline, promazine, thioridazine, mefloquine, desipramine, chlorpromazine, prochlorperazine, propiomazine, pimethixene, perphenazine, amitriptyline, amoxepine, maprotiline, quinacrine, periciazine, ethopropazine, mianserin, cyclobenzaprine, imipramine, clozapine, and doxepin.
3. The composition of claim 2, wherein said composition is methiothepin.
4. The composition of claim 2, wherein said composition is promethazine.
5. The composition of claim 2, wherein said composition is triflupromazine.
6. The composition of claim 2, wherein said composition is clomipramine.
7. The composition of claim 2, wherein said composition is flufenazine.
8. The composition of claim 2, wherein said composition is chlorprothixene.
9. The composition of claim 2, wherein said composition is nortriptyline.
10. The composition of claim 2, wherein said composition is promazine.

11. The composition of claim 2, wherein said composition is thioridazine.
12. The composition of claim 2, wherein said composition is mefloquine.
13. The composition of claim 2, wherein said composition is desipramine.
14. The composition of claim 2, wherein said composition is chlorpromazine.
15. The composition of claim 2, wherein said composition is prochlorperazine.
16. The composition of claim 2, wherein said composition is propiomazine.
17. The composition of claim 2, wherein said composition is pimethixene.
18. The composition of claim 2, wherein said composition is perphenazine.
19. The composition of claim 2, wherein said composition is amitriptyline.
20. The composition of claim 2, wherein said composition is amoxepine.
21. The composition of claim 2, wherein said composition is maprotiline.
22. The composition of claim 2, wherein said composition is quinacrine.
23. The composition of claim 2, wherein said composition is periciazine.
24. The composition of claim 2, wherein said composition is ethopropazine.
25. The composition of claim 2, wherein said composition is mianserin.
26. The composition of claim 2, wherein said composition is cyclobenzaprine.

27. The composition of claim 2, wherein said composition is imipramine.
28. The composition of claim 2, wherein said composition is clozapine.
29. The composition of claim 2, wherein said composition is doxepin.
30. A method for protecting a subject against a mitochondrial component-mediated disease, comprising administering to said subject an effective amount of a compound effective in inhibiting mitochondrial permeability transition.
31. The method of claim 30, wherein said compound is selected from the group consisting of methiothepin, promethazine, triflupromazine, clomipramine, flufenazine, chlorprothixene, nortriptyline, promazine, thioridazine, mefloquine, desipramine, chlorpromazine, prochlorperazine, propiomazine, pimethixene, perphenazine, amitriptyline, amoxepine, maprotiline, quinacrine, periciazine, ethopropazine, mianserin, cyclobenzaprine, imipramine, clozapine, and doxepin.
32. The method of claim 30, wherein said effective amount ranges from about 0.1 mg/kg to about 100 mg/kg.
33. The method of claim 32, wherein said effective amount ranges from about 5 mg/kg to about 50 mg/kg.
34. The method of claim 5, wherein said disease is stroke, heart attack, neurological insult, brain trauma, spinal cord injury, chemical toxicity, liver, muscle, kidney reperfusion or a combination thereof.
35. A method for treating a subject affected with a mitochondrial component-mediated disease by administering to said subject a therapeutic dose of a compound effective in inhibiting mitochondrial permeability transition.

36. The method of claim 35, wherein said compound is selected from the group consisting of methiothepin, promethazine, triflupromazine, clomipramine, flufenazine, chlorprothixene, nortriptyline, promazine, thioridazine, mefloquine, desipramine, chlorpromazine, prochlorperazine, propiomazine, pimethixene, perphenazine, amitriptyline, amoxepine, maprotiline, quinacrine, periciazine, ethopropazine, mianserin, cyclobenzaprine, imipramine, clozapine, and doxepin.

37. The method of claim 35, wherein said effective amount ranges from about 0.1 mg/kg to about 100 mg/kg.

38. The method of claim 35, wherein said effective amount ranges from about 5 mg/kg to about 50 mg/kg.

39. The method of claim 35, wherein said disease is stroke, heart attack, neurological insult, neurological insult, brain trauma, spinal cord injury, chemical toxicity, liver, muscle, kidney reperfusion or a combination thereof.

40. The method of claim 39, wherein said neurological insult is a neurodegenerative disease.

41. The method of claim 40, wherein said neurodegenerative disease is Amyotrophic Lateral Sclerosis, Parkinson's disease, Huntington's disease, Alzheimer's disease, heart attack, stroke, or a combination thereof.

42. A pharmaceutical preparation comprising a drug and a suitable drug carrier, wherein said drug is selected from the group consisting of methiothepin, promethazine, triflupromazine, clomipramine, flufenazine, chlorprothixene, nortriptyline, promazine, thioridazine, mefloquine, desipramine, chlorpromazine, prochlorperazine, propiomazine, pimethixene, perphenazine, amitriptyline, amoxepine, maprotiline, quinacrine, periciazine, ethopropazine, mianserin, cyclobenzaprine, imipramine, clozapine, and doxepin.

43. The pharmaceutical preparation of claim 42, wherein said suitable carrier is selected from the group consisting of a tablet, pill, dragee, capsule, liquid, gel, syrup, slurry, suspension and the like.

44. The pharmaceutical preparation of claim 42 further comprising a suitable excipient.

45. The pharmaceutical preparation of claim 44, wherein said excipient is selected from the group consisting of sugars, including lactose, sucrose, mannitol, sorbitol, cellulose, including maize starch, wheat starch, rice starch, potato starch, gelatin, gum tragacanth, methyl cellulose, hydroxypropylmethylcellulose, sodium carboxymethyl cellulose, polyvinyl-pyrrolidone (PVP) and a combination thereof.